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ENGLISH

CAUTION

Use a power cable that is properly grounded. Always use the AC cords listed below for each area:

USA	UL
Canada	CSA
Germany	VDE
Switzerland	SEV
Britain	BASEC/BS
Japan	Electric Appliance Control Act

In other areas, use AC cord which meets local safety standards.

FOR EUROPEAN VERSION ONLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 13 amp fuse is fitted in this plug. Should the fuse need to be replaced, ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS1362. Check for the ASTA mark ⓐ or the BSI mark ♡ on the body of the fuse.

If the plug contains a removable fuse cover, you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover, the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from your local **ViewSonic** dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME, THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted, please observe the wiring code as shown below. If in any doubt, please consult a qualified electrician.

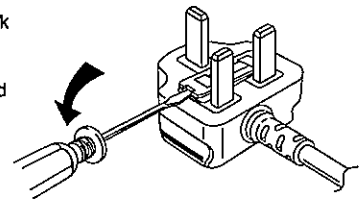
WARNING: THIS APPLIANCE MUST BE GROUNDED.

Important: The wires in the main leads are colored in accordance with the following code:

Green-Yellow	Ground
Blue	Neutral
Brown	Live

The colors of the wires in the main leads of this appliance may not correspond with the colored markings identifying the terminals in your plug. Please comply with the following instructions:

- The Green-Yellow wire must be connected to the green or green-yellow terminals in the plug and marked with the letter E or with the ground symbol.
- The Blue wire must be connected to the Black terminal in the plug marked with the letter N.
- The Brown wire must be connected to the red terminal in the plug marked with the letter L.



Note: To replace the fuse, open the fuse compartment with a screwdriver.

FCC Information

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Warning:

To assure continued FCC compliance, the user must use a grounded power supply cord and the provided shielded video interface cable. Also, any unauthorized changes or modifications to this monitor would void the user's authority to operate this device.

DOC Compliance Notice

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

DOC avis de conformation

Cet appareil est bien conforme à la directive communautaire No 82/499/CEE.

For your records

The serial number of this product may be found on its back cover. You should note the serial number of this unit in the space provided and retain this booklet as a permanent record of your purchase to aid in identification in the event of theft or loss.

Product Name:	**ViewSonic *29GA***
Model Number:	**2964GA-1**
Serial Number:	

INTRODUCTION

1

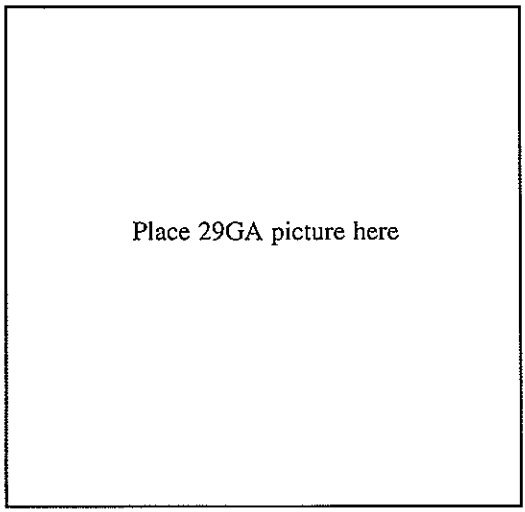
Contents

Congratulations on your purchase of a **ViewSonic *29GA*** high performance full color presentation monitor!

The following list contains all items included in the **ViewSonic *29GA*** package:

- **ViewSonic *29GA*** monitor
- 15 Pin High Density Mini D-Sub/15 Pin D-sub connector cable
- Power cord
- User's Guide
- Wireless Remote Controller
- Two Batteries (AA Size)

Be sure to save original box and all packing material for future transport of the monitor.



Features

Superior Image ...

- Large 27" diagonal viewable area ideal for **multimedia presentations**.
- **Autoscanning** range of 15-64kHz compatible with resolution up to 1280x1024 non-interlaced.
- The **Static and Dynamic Focus System** delivers fine image displays over the entire area of the screen.
- **INVAR Shadow Mask** for superior focus, brightness and color.
- Ultra-high 80Hz refresh rate up to 1024x768 resolution for **sharp, flicker-free images**.

Ergonomic Design ...

- **Large, flat, square and high contrast screen** displays clear pictures and rich vibrant colors with reduced distortion for more accurate images.
- **Front mounted video/audio inputs** make it easy to connect a laptop computer, VCR, video camera, etc.

Environmentally Friendly ...

- VESA® DPMS™ Compliant Power Management System for **substantial energy savings**.
- **Power unit** with high power factor reducing power harmonics to save electricity.
- Our shipping cartons are made of **recyclable material!**

Timing ...

- **Automatic tracking** of horizontal frequencies from 15 to 64 kHz and vertical frequencies from 45 to 160 Hz.
- **Fourteen timings** are factory preset for image size and position.
- **Ten additional timings** are user definable.
- **Synchronizing input signals** (separate, composite, or sync-on-green) can be automatically selected.

System Flexibility ...

- **Bezel integrated speakers** produce a minimum of 5 watts RMS per channel of focused sound.
- **Wireless remote control** for mode switching and image adjustments.
- Remote control can independently **control up to 16 multiple units for powerful presentations**.
- Inputs include **PC, Mac, S-video, Composite Video, and Audio** for universal adaptability.
- Output jacks allow loop-through for **coordinated multi-monitor presentations**.
- Compatible with both **NTSC and PAL** for international flexibility.
- Monitor is compatible with VGA, SVGA, VESA, and high resolution video modes up to **1280 (H) x 1024 (V).**
- Monitor may be used with **IBM or compatible PC, Macs, and video sources** (VCR, lazer disc, cameras, etc.).
- **Automatic universal power supply** is built in permitting AC power input from 90 to 264 V, 50 or 60 Hz.

Specifications

CRT	Type	29" (27" diagonal viewable area). 0.80mm stripe pitch at center, 0.96mm at corner Deflection: Diagonal=108°, Horizontal=96°, Vertical=78°
	Phosphor	P22 RGB medium-short persistence
	Glass Surface	Tinted (TM=49%), filter glass, anti-static
Input Signal	**Computer**	
	Video	RGB analog w/o sync (0.7 Vp-p, 75 ohms) RGB analog w/sync (1.0 Vp-p, 75 ohms)
	Sync	H/V Separate, Composite: TTL Level, Positive/Negative Sync-on-Green: 0.3 Vp-p, Negative f_h: 15-64 kHz, f_v: 45-160Hz
	Composite Video	NTSC, PAL 1.0 Vp-p/ 75 ohms terminated Video 0.714 Vp-p, Positive Sync 0.286 Vp-p, Negative
	S-Video	NTSC, PAL 1.0 Vp-p/ 75 ohms terminated Luminance 0.714 Vp-p, Positive Chroma 0.286 Vp-p, 75 ohms Sync 0.286 Vp-p, Negative
	Audio	0.4~0.5 Vrms, 22 K ohms
Compatibility	PC	IBM XT, AT, 386, 486, Pentium or PS/2 and compatibles (from VGA up to 1280x1024 non-interlaced)
	Mac	Macintosh II series, LC series, Quadra, Power Mac
	Composite & S-Video	NTSC, PAL
Resolution	Max	800x600 NI @ 100 Hz 1024x768 NI @ 80 Hz (emulated) 1280x1024 NI @ 60 Hz (emulated)
Memory	**Factory Preset**	14 Modes
	PC (11)	640x400 @70, 85 Hz 640x480 @60, 72 Hz 800x600 @56, 60, 72 Hz 1024x768 @87int., 60, 70, 72 Hz
	Mac (1)	640x480 @67 Hz
	NTSC (1)	600 lines
	PAL (1)	600 lines
	User Defined	10 Modes

Cont...

Specifications Cont.

Input Terminal	**Front**	
	Mac	15 pin D-sub x 1
	Composite	RCA jack x 1
	S-Video	S-terminal x 1
	Audio	2 RCA jacks (L & R) x 1
	Back	
	PC	15 pin HD D-sub x 1 (loop through)
	Mac	15 pin D-sub x 1 (loop through)
	Composite	RCA jack x 2, BNC x 1
	S-Video	S-terminal x 2
	Audio	2 RCA jacks (L & R) x 2 for video sound
		2 RCA jacks (L & R) x 1 for computer sound
Output Terminal	**Back**	
	PC	15 pin HD D-sub x 1 (loop through)
	Mac	15 pin D-sub x 1 (loop through)
	Composite	BNC x 1
	S-Video	S-terminal x 1
	Audio	2 RCA jacks (L & R) x 1 for video sound
		2 RCA jacks (L & R) x 1 for external speakers
		2 RCA jacks (L & R) x 1 for computer sound
Power	Voltage	AC 90~264V (auto switch)
	Consumption	340 W max.
	Connector	3-pin plug (CEE22)
User Controls	Front	Power, Contrast, Brightness, Degauss, Color Saturation, Tint, Sharpness, Volume, Mute, Auto Input Select, Input Select (Right & Left), Memory Reset, Color Temperature Select, Mode Select, Vertical Size/Position, Horizontal Size/Position, Pincushion, Trapezoid
	Back	75 ohms Termination, Clamp, INT/EXT Speaker
	Remote	Power, Contrast, Brightness, Degauss, Color Saturation, Tint, Sharpness, Volume, Mute, Auto Input Select, Input Select (Right & Left), Vertical Size/Position, Horizontal Size/Position, Monitor Select, All Button
Remote Control		Wireless, Addressable (16 units)
Video In	**Bandwidth**	
	Computer	86MHz (Max)
	Video	6 MHz

Cont...

Specifications Cont.

Misconvergence		0.40mm (max) at center 0.96mm (max) at corner	
Display Area	**Factory Setting** Computer Full Scan/Video	 500mm (H) x 375mm (V) typical 547mm (H) x 415mm (V) typical	
Audio	Power	Minimum of 5 watts RMS per channel into 8 ohm speakers	
Operating Conditions	Temperature Humidity Altitude	32°F to 104°F (0°C to 40°C) 20% to 90% (no condensation) 10,000 feet	
Storage Conditions	Temperature Humidity Altitude	14°F to 131°F (-10°C to 55°C) 5% to 90% (no condensation) 40,000 feet	
Dimensions	Physical Packaging	678mm (W) x 565mm (H) x 530mm (D) 26.7" (W) x 22.2" (H) x 20.9" (D) 793mm (W) x 707mm (H) x 688mm (D) 31.2" (W) x 27.8" (H) x 27.1" (D)	
Weight	Net Gross	58kg (127.9 lbs) 63kg (138.9 lbs)	
Regulations		UL, CSA, FCC-A, DHHS, DOC, PTB	
Reliability	MTBF	30,000 Hrs	
Power Savings	"On" "Stand By" "Suspend" "Off"	Green Flashing orange then off Flashing orange then off Flashing orange then red	Normal 12 W 12 W 7 W

All products and trademarks are brand names of their respective companies. Specifications subject to change without notice.

Dimensions

Front View...

Width

Height

Side View...

Depth

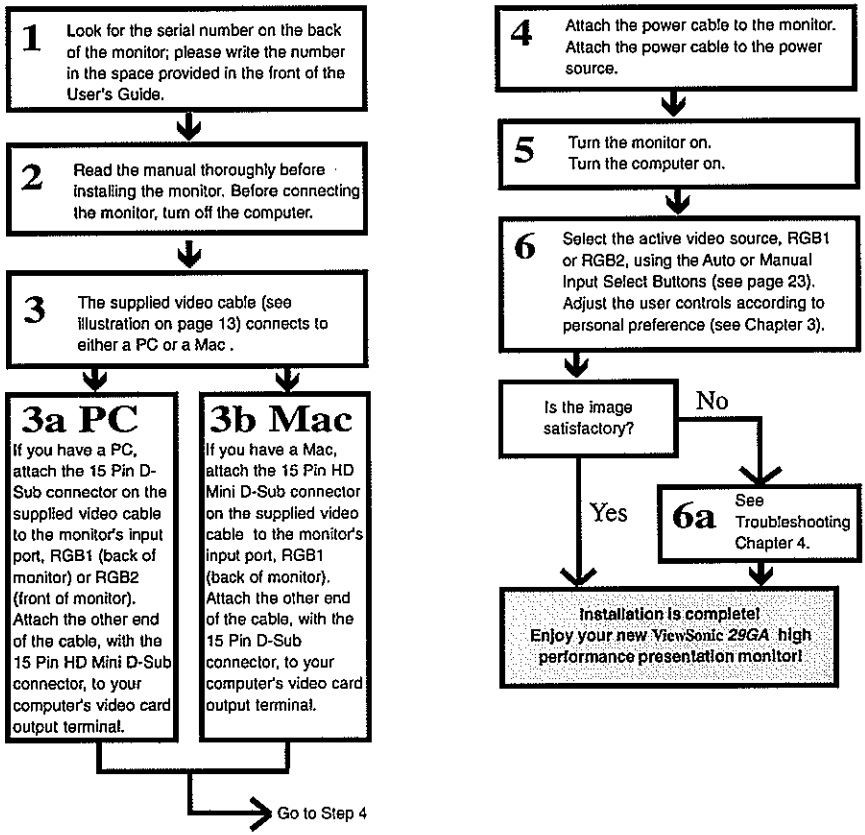
Top View...

INSTALLATION

2

Power Up: PC/Macintosh

ENGLISH


1 Look for the serial number on the back of the monitor; please write the number in the space provided in the front of the User's Guide.
2 Read the manual thoroughly before installing the monitor. Before connecting the monitor, turn off the computer.
3 The supplied video cable (see illustration on page 13) connects to either a PC or a Mac .
3a PC
If you have a PC, attach the 15 Pin D-Sub connector on the supplied video cable to the monitor's input port, RGB1 (back of monitor) or RGB2 (front of monitor). Attach the other end of the cable, with the 15 Pin HD Mini D-Sub connector, to your computer's video card output terminal.
3b Mac
If you have a Mac, attach the 15 Pin HD Mini D-Sub connector on the supplied video cable to the monitor's input port, RGB1 (back of monitor). Attach the other end of the cable, with the 15 Pin D-Sub connector, to your computer's video card output terminal.
Go to Step 4
4 Attach the power cable to the monitor. Attach the power cable to the power source.
5 Turn the monitor on. Turn the computer on.
6 Select the active video source, RGB1 or RGB2, using the Auto or Manual Input Select Buttons (see page 23). Adjust the user controls according to personal preference (see Chapter 3).
Is the image satisfactory?
No
Yes
6a See Troubleshooting Chapter 4.
Installation is complete! Enjoy your new ViewSonic 29GA high performance presentation monitor!

Warning: The two RGB1 computer connectors cannot be used as inputs at the same time. One of the two connectors is for input, and the other is for output. For example, when the 15 Pin D-Sub connector is used for input, the 15 Pin High Density Mini D-Sub Connector becomes the output when connecting to another monitor.

If you want to connect two computers to a single monitor at the same time, use both the RGB1 and RGB2 computer connectors for input.

Multiple Monitor Option: PC/Macintosh

You can connect up to 16 monitors together to display screen images from a single computer. The cables are not supplied for this option. For a PC or Mac, use video cables with 15 Pin HD Mini D-Sub connectors on one end, and 15 Pin D-Sub connectors on the other.

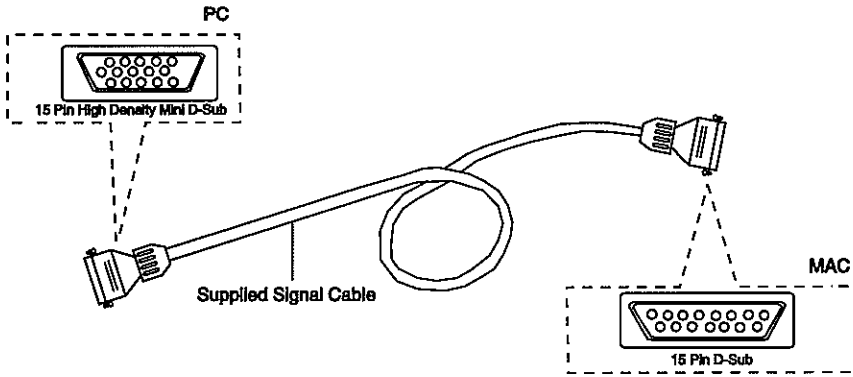
For multiple connections, you can only use the RBG1 port on the rear of the monitor. Connect the output of the first monitor to the input of the next; continue this connection pattern for each monitor. You cannot use a connector in RGB1 for RGB2 output. There is no output for RGB2.

On each connected monitor, except the last, slide the Input Termination Switch on the rear of the monitor from "75Ω" (ohms) to "HI-Z". On the last connected monitor, the input switch should be at "75Ω" (ohms).

For multiple audio setup, use the audio inputs and outputs below the RGB1 video connectors.

Signal Connections

The supplied video cable connects to either a PC or a Macintosh. For installation procedures, see page 12.

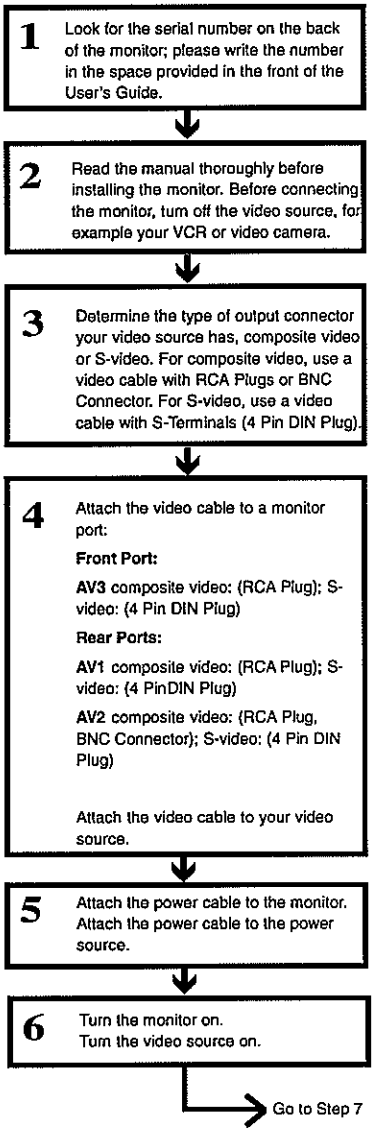


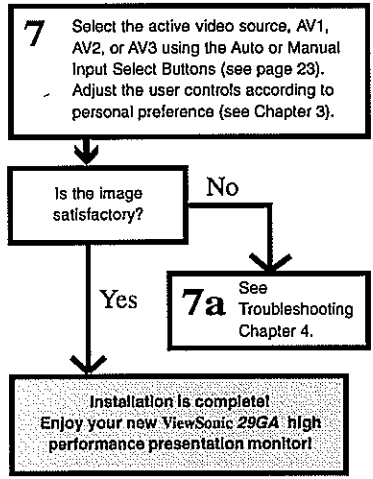
The table below provides signal descriptions of each pin.

Signal	VGA 15 Pin High Density Mini D-Sub	Mac 15 Pin D-Sub
Red	1	2
Green/Sync. on Green	2	5
Blue	3	9
H. Sync./H. + Sync.	13	3
V. Sync.	14	12
Ground	4, 6, 7, 8, 10, 11 & Shell	1, 4, 6, 11, 13, 14 & Shell
No Connection	5, 9, 15	8, 10, 15
Reserved	12	7

Note: Without a special video adapter, lower resolution modes are the default for a Macintosh. Higher resolution modes may require a special video adapter. Contact ViewSonic for more information about the special video adapter. The 29GA is not designed for the Macintosh 1152 x 870 and 1280 x 1024 formats.

Power Up: TV/VCR/Camera Video


1
Look for the serial number on the back of the monitor; please write the number in the space provided in the front of the User's Guide.
2
Read the manual thoroughly before installing the monitor. Before connecting the monitor, turn off the video source, for example your VCR or video camera.
3
Determine the type of output connector your video source has, composite video or S-video. For composite video, use a video cable with RCA Plugs or BNC Connector. For S-video, use a video cable with S-Terminals (4 Pin DIN Plug).
4
Attach the video cable to a monitor port:
Front Port:
AV3 composite video: (RCA Plug); S-video: (4 Pin DIN Plug)
Rear Ports:
AV1 composite video: (RCA Plug); S-video: (4 PinDIN Plug)
AV2 composite video: (RCA Plug, BNC Connector); S-video: (4 Pin DIN Plug)
Attach the video cable to your video source.
5
Attach the power cable to the monitor. Attach the power cable to the power source.
6
Turn the monitor on.
Turn the video source on.
Go to Step 7


7
Select the active video source, AV1, AV2, or AV3 using the Auto or Manual Input Select Buttons (see page 23).
Adjust the user controls according to personal preference (see Chapter 3).
Is the image satisfactory?
No
Yes
7a
See Troubleshooting Chapter 4.
Installation is complete!
Enjoy your new ViewSonic 29GA high performance presentation monitor!

Warning: Each video input, AV1, AV2, or AV3 can have only one video source connected to it at one time. For example, if you want to connect both a video camera and a VCR to the monitor, connect one to AV1, and the other to AV2 or AV3.

ENGLISH

Multiple Monitor Option: TV/VCR/Camera Video

You can connect up to 16 monitors together to display screen images from 1 to 3 video sources. Whatever video source is active on the first monitor will be displayed on all monitors. To switch between multiple video sources, use the Auto or Manual Input Select Buttons (see page 23) on the first monitor. On every monitor, except the first, the input must be set to AV2, using the Auto or Manual Input Select Buttons. The cables are not supplied for this option.

You can connect three possible video sources to the first monitor in the chain, using AV1, AV2, or AV3 video inputs. Connect the video output (AV OUT) of the first monitor to the video input (AV2) of the next; continue this connection pattern for each monitor. For composite video, use video cables with BNC Connectors (not RCA Plugs). For s-video, use video cables with 4 Pin DIN Plugs.

For multiple audio setup, make sure your audio source is connected with your video source.

Audio Installation

Audio cables are not supplied with this monitor. You can only use RCA Plugs with the 29GA's audio inputs. The type of cable you need depends on your computer's sound board or your audio source. For example, if your computer's sound card or your audio source uses RCA jacks for audio out, you will need an RCA to RCA cable. This cable is available from ViewSonic or your local electronics store. The 29GA has the following audio inputs:

Front Panel: AV3

Rear Panel: AV1, AV2, RGB1 (RGB2 does **not** have an audio input.)

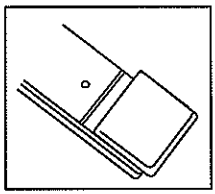
Before attaching the 29GA's audio connectors to your computer or audio source, turn off both the monitor and the computer or audio source. Insert the two RCA plugs into the monitor's AUDIO IN jacks. Insert the other end of this cable into the AUDIO OUT of the sound source.

You can connect 8 ohm external speakers to the 29GA. Slide the switch to the external ("EXT") speaker position. When using external speakers, the internal speakers are turned off.

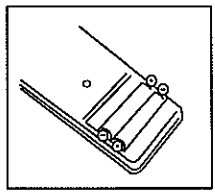
Remote Control Battery Installation

The 29GA comes with two 'AA' batteries for the Remote Control. Do not use rechargeable batteries (Ni-Cd). Insert the batteries as shown below:

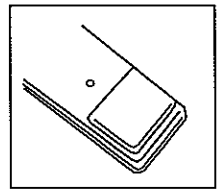
1. Slide the panel away.



2. Insert new batteries



3. Replace the panel.

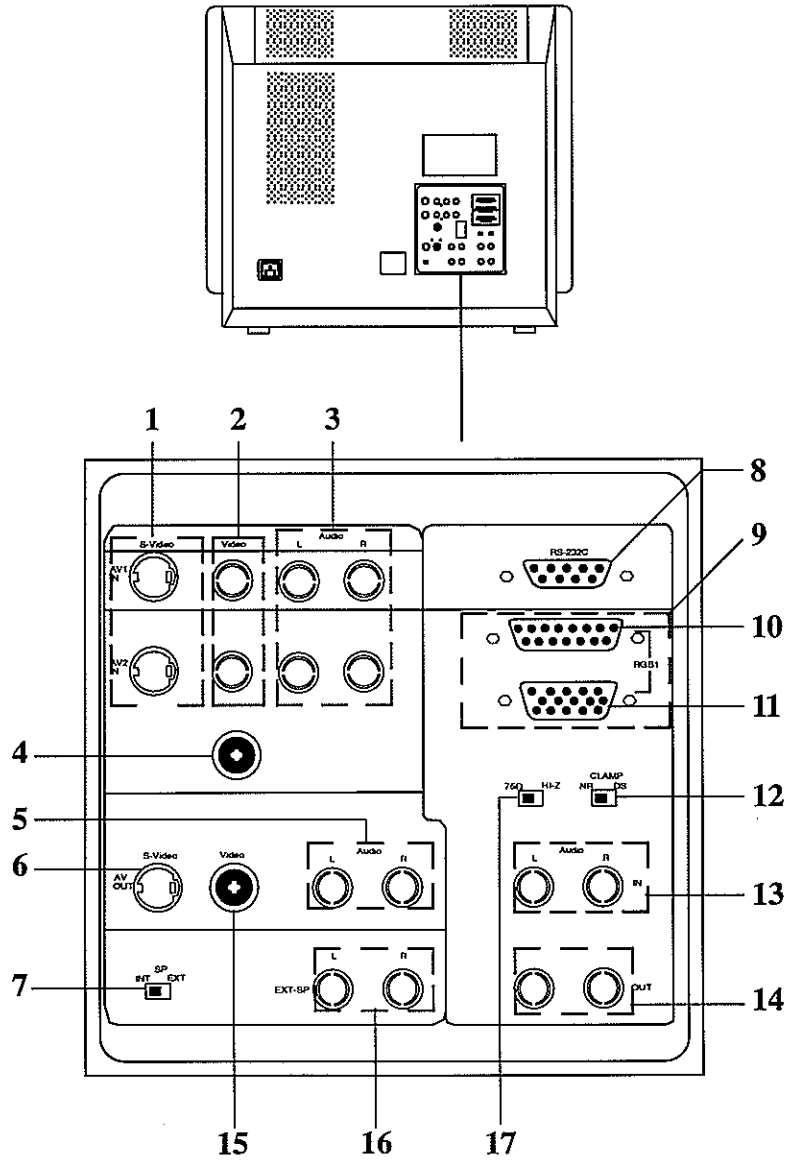


Battery Precautions:

The incorrect use of batteries can cause electrolyte leakage which will corrode the Remote Control, or cause the batteries to explode. The following precautions must be observed carefully:

- Replace both batteries at the same time.
- Dispose of the old batteries immediately.
- Do not mix battery types (alkaline, carbon-zinc, etc.)
- Do not recharge, short circuit, disassemble, heat or burn batteries.

Rear Panel Signal Connectors



1 S-Video Input Connector:

These connectors (AV1, AV2) are for s-video signal cable (not supplied), used with s-video equipment.

2 Video Input RCA Jack:

These inputs (AV1, AV2) are for composite video signal cable (not supplied), used with video equipment.

Warning: DO NOT Connect both an s-video connector and an RCA Jack to a video **input** port (AV1 or AV2) at the same time. You can only use one at a time.

3 Audio Input RCA Jack:

These sound inputs (AV1, AV2) are for video equipment (signal cable not supplied).

4 BNC Input Connector:

This connector (AV2) is for video signal cable (not supplied), used when connecting multiple monitors.

5 Audio Output RCA Jack:

These outputs (AV OUT) are for video audio only.

6 S-Video Output Connector:

This output (AV OUT) is the only output for s-video.

7 Speaker Select Switch:

The normal position is to the left, marked "INT". To connect external 8 ohm speakers, slide the switch to the "EXT" position.

8 RS-232C Port:

This is a service port, which allows the factory to make adjustments to the monitor. It is not for customer use.

9 D-Sub Input/Output:

This input/output port (RGB1) for computers consists of two connectors, a 15 Pin High Density Mini D-Sub Connector and a 15 Pin D-Sub Connector (video cable supplied).

Warning: The two RGB1 computer connectors cannot be used as input at the same time. One of the two connectors is for input, and the other is for output. For example, when the 15 Pin D-Sub connector is used for input, the 15 Pin High Density Mini D-Sub Connector becomes the output when connecting to another monitor.
This output connector is not for RGB2 output. There is no output for RGB2.

10 15 Pin D-Sub Connector:

This is the large connector at the top of RGB1. For IBM or IBM compatible computers, connect the 15 Pin D-Sub Connector end of the supplied video cable to this connector.

11 15 Pin High Density Mini D-Sub Connector:

This is the smaller connector at the bottom of RGB1. For Macintosh or Quadra Computers, connect the 15 Pin High Density Mini D-Sub Connector end of the supplied video cable to this connector.

12 Clamp:

The Normal Sync position, to the left marked "NR", is for use with video boards or computers with Separate Sync (MCGA, VGA, SVGA, 8514/A and XGA for example).

For Macintosh or compatible computers (not the Mac LC or LCII) with both Sync on Green and Composite Sync signals, slide the switch to "DS" (Dual Sync).

13 Audio Input RCA Jack PC/Mac:

This input is for computer audio.

ENGLISH

14 Audio Output RCA Jack PC/Mac:

This output is for computer audio, used when connecting multiple monitors (signal cable not supplied).

15 BNC Video Output Connector:

This output (AV OUT) is for video signal cable (not supplied), used when connecting multiple monitors.

16 Audio Output RCA Jack For External Speakers:

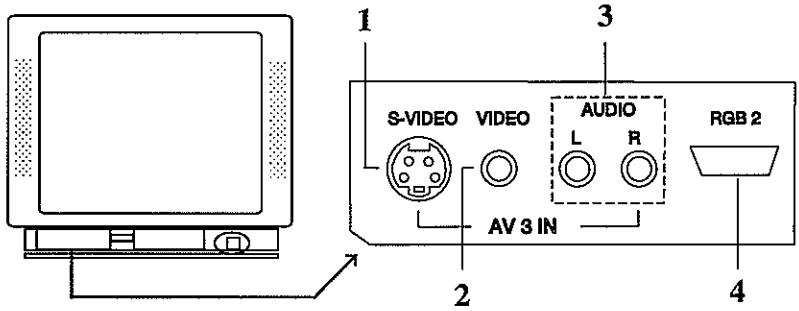
This output is for connecting 8 ohm external speakers. When using external speakers, slide the Speaker Select Switch (7) to "EXT".

17 Input Termination Switch:

The normal position is to the left, marked "75Ω" (ohm). When you connect multiple monitors (cable not supplied), slide the switch to "HI-Z" on the first monitor and on every other monitor except the last. On the last monitor in the chain, the switch should be at "75Ω". You can connect up to 16 monitors.

Caution: When you are using only one monitor, do not set the Input Termination Switch to "HI-Z". The screen image will be too bright.

Front Panel Signal Connectors



1 S-Video Input Connector:

This connector (AV3) is for s-video signal cable (not supplied), used with s-video equipment.

2 Video Input RCA Jack:

This input (AV3) is for composite video signal cable (not supplied), used with video equipment.

Warning: DO NOT Connect both an s-video connector and an RCA Jack to the AV 3 video **input** port at the same time. You can only use one at a time.

3 Audio Input RCA Jacks:

This input (AV3) is for video equipment sound (signal cable not supplied).

4 15 Pin D-Sub Input:

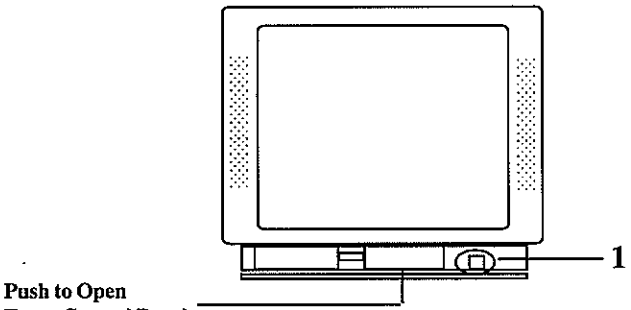
For IBM or IBM compatible computers, connect the 15 Pin D-Sub Connector end of the supplied video cable to this connector (RGB2).

There is no output for RGB2.

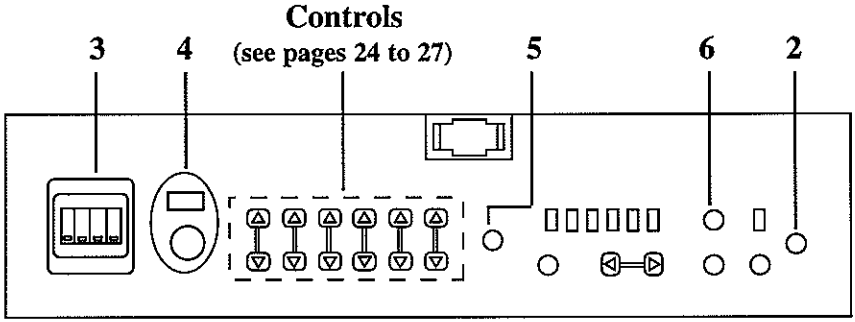
OPERATION

3

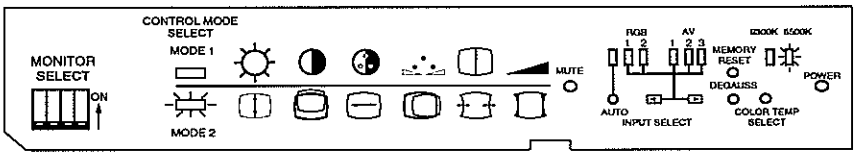
Monitor Controls



Monitor Front View



Front Controls



Front Control Panel Inside Label

1. Main Power Switch

Power Indicator

Press to turn the monitor on. Press again to turn the monitor off.
When the monitor is activated, the Power Indicator will light green.
When the monitor is in standby mode, the Power Indicator will light red. **If the Power Indicator is red:**

Press the Power Button (#2 in the Front Controls illustration on page 19) to activate the monitor. The Power Indicator will light green.

Or

Press the Power Button on the Remote Control to activate the monitor. The Power Indicator will light green. (See the Remote Control Section for more information.)

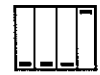
2. Power Button

Power Indicator

Press to toggle the monitor between active and standby mode. When the monitor is activated, the Power Indicator is green. When the monitor is in standby mode, the Power indicator is red.

3. Monitor Select Switch

To use the Addressable Remote Control, set the Monitor No. with the Monitor Select Switch. The Monitor No. can be set from "0" to "15" (see the following page for the remaining switches).

Monitor No.	Monitor Select Switch	Monitor No.	Monitor Select Switch
0		5	
1		6	
2		7	
3		8	
4		9	

3. Monitor Select Switch (cont.)

Monitor No.	Monitor Select Switch	Monitor No.	Monitor Select Switch
10		13	
11		14	
12		15	

Note: You can control up to 16 monitors, individually or all at the same time. See the Remote Control Section for more information.

4. Control Mode Button Mode Indicator

Press to toggle between Mode 1 and Mode 2. Mode 1 is the default setting when the monitor is activated. To select Mode 2, press the Control Mode Button. The Mode Indicator will light green.

Mode 1: In this mode, you can adjust the Brightness, Contrast, Color, Tint, Sharpness, and Volume level. The Green LED Mode Indicator is off in Mode 1. (See page 24 for an explanation of these controls.)

Mode 2: In this mode, you can adjust the Monitor Image Size and Position, Side-Pincushion and Trapezodial Distortion. The Green LED Mode Indicator is on in Mode 2. (See page 26 for an explanation of these controls.)

Note: The monitor will automatically switch back to Mode 1 approximately 60 seconds after the last operation of any Mode 2 control.

5. Mute Button

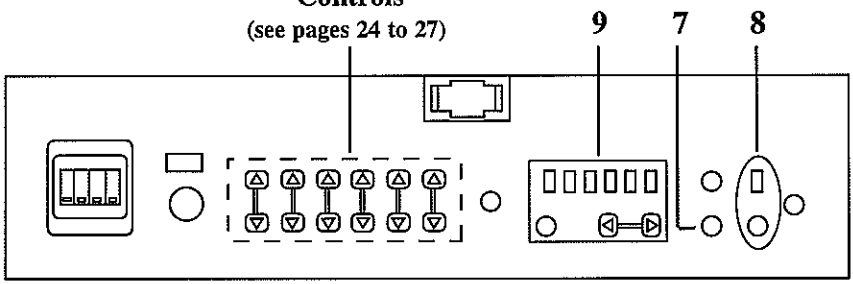
Press to turn the sound off. Press again to turn the sound on. When a Volume Control Button is pressed, or the power is turned on and off, the mute is reset to the sound on position.

ENGLISH

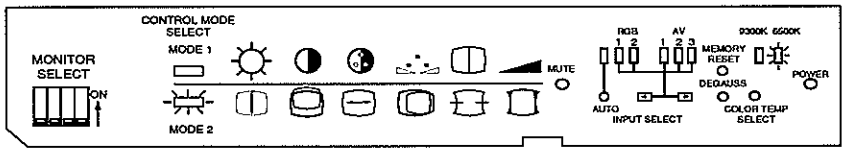
6. Memory Reset Button

Press, using a ballpoint pen, to reset the display image (except for the Color Temperature) to the factory preset levels. The current image control settings that you have defined are deleted.

Controls
(see pages 24 to 27)



Front Controls



Front Control Panel Inside Label

7. Degauss Button

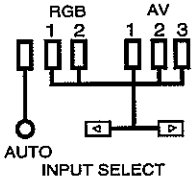
Press in and hold for several seconds to remove the build-up of magnetic fields that can affect color purity and convergence. Your screen will blank when you press the Degauss Button. The screen image will return when degaussing is finished.

8. Color Temperature Button Temperature Indicator

Press to toggle between 9300°K mode and 6500°K mode. The factory preset is 9300°K mode.
The Yellow LED Temperature Indicator is on when 6500°K mode is selected. It is off when 9300°K mode is selected.

9300°K Mode: In this mode, the Picture Color Image is bluer and brighter than in 6500°K Mode.
6500°K Mode: In this mode, the Picture Color Image is redder and closer to"paper white" than in 9300°K Mode.
Note: When you activate the monitor, the last Color Temperature setting is displayed.

9. Input Select Buttons Input Select Indicator



Use the **Auto Button** or the **Manual Select Buttons** to select an active video source.

Auto Button: Press the Auto Button to automatically scan five possible signal inputs (RGB 1, RGB2, AV1, AV2, AV3) for an active video source. The Auto Indicator will light yellow, and as each input is scanned, its Input Select Indicator will light green. When an active video source is found, the Input Select Indicator will light green and scanning will stop. If an active video source isn't found after cycling several times, the monitor goes into power savings mode (see the Power Management section).

If more than two video sources are active, the scanning will stop at the first active video source. If you want to select the second active video source, use a manual select button.

Manual Select Buttons: Use the two Manual Select Buttons to manually scan the five possible signal inputs (RGB 1, RGB2, AV1, AV2, AV3) for an active video source. If you select a signal input that is not an active video source, the monitor screen will be blank, and after a few minutes, will go into power savings mode.

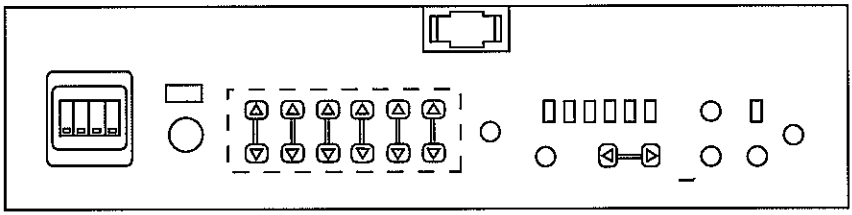
Mode Adjustments

The Mode Controls are described on the following pages.

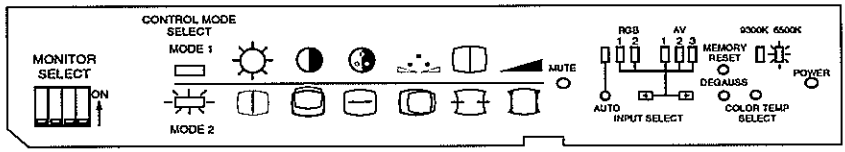
In **Mode 1**, you can adjust the Brightness, Contrast, Color, Tint, Sharpness, and Volume level. When the monitor is activated, it is set to Mode 1. The Green Mode Indicator is off in Mode 1.

In **Mode 2**, you can adjust the Monitor Image Size and Position, Side-Pincushion and Trapezodial Distortion. The Green Mode Indicator is on in Mode 2.

You use the **Control Mode Button** to toggle between Modes 1 and 2. (See page 21 for more information.)



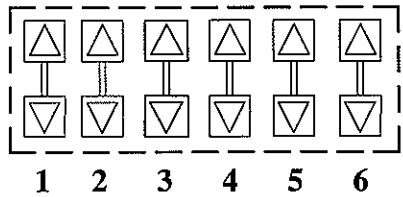
Front Controls



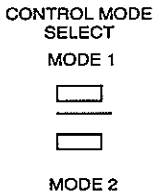
Front Control Panel Inside Label

Mode 1 Controls

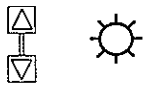
When the monitor is activated, it is set to Mode 1. The Green Mode Indicator is off in Mode 1. If the Green Mode Indicator is on, press the Control Mode Button to return to Mode 1.



See the explanations below for each of these Mode 1 Controls.



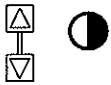
1. Brightness



This control adjusts the image brightness. (Image brightness controls adjust the background Black Level in an image.)

- △ Increases the brightness of the screen image.
- ▽ Decreases the brightness of the screen image.

2. Contrast

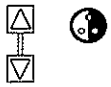


This control adjusts the contrast between the background (black level) and the foreground (white level) of the screen image.

- △ Increases the contrast of the image.
- ▽ Decreases the contrast of the image.

Note: If your computer's video signal amplitude is 1.0 V, adjust the display using this control.

3. Color Saturation



This control adjusts the color density.

- △ Deepens the color density of the image.
- ▽ Lightens the color density of the image.

Note: Not effective when you are using RGB1 or RGB2 inputs.

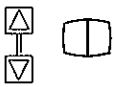
4. Tint

This control adjusts the tint.

- △ Increases the tint. The screen image becomes more greenish.
- ▽ Decreases the tint. The screen image becomes more reddish.

Note: Not effective when you are using RGB1 or RGB2 inputs.

5. Sharpness



This control adjusts the image sharpness level.

- △ Increases the sharpness of the image.
- ▽ Decreases the sharpness of the image.

Note: Not effective when you are using RGB1 or RGB2 inputs.

6. Volume

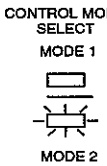
This control adjusts the volume level.

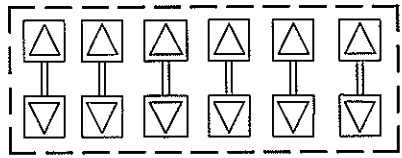
- △ Increases the volume.
- ▽ Decreases the volume.

Mode 2 Controls

When the monitor is activated, it is set to Mode 1. To select Mode 2, press the Control Mode Button (see page 21). The Mode Indicator will light green.

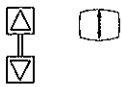
Note: The monitor will automatically switch back to Mode 1 approximately 60 seconds after the last operation of any Mode 2 control.





See page 24 for an illustration of the Front Controls. See the explanations below for each of these Mode 2 Controls.

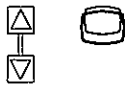
1. Vertical Size



This control adjusts the vertical size of the screen image.

- △ Increases the height of the screen image.
- ▽ Decreases the height of the screen image.

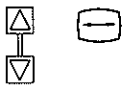
2. Vertical Centering



This control adjusts the vertical position of the screen image.

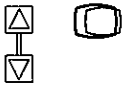
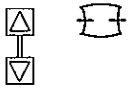
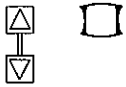
- △ Moves the screen image up.
- ▽ Moves the screen image down.

3. Horizontal Size



This control adjusts the horizontal size of the screen image.

- △ Increases the width of the screen image.
- ▽ Decreases the width of the screen image.

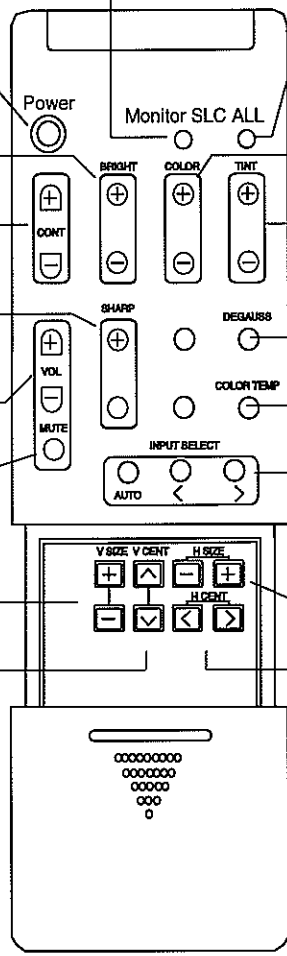
4. Horizontal Centering 	This control adjusts the horizontal centering of the screen image. △ Moves the screen image to the right. ▽ Moves the screen image to the left.
5. Side-Pincushion 	This control adjusts the straightness of the screen image's vertical edges. △ Curves the image's edges outwards. ▽ Curves the image's edges inwards.
6. Trapezoid 	This control adjusts for uneveness between the top and the bottom of the screen image. △ Makes the screen image wider at the top and narrower at the bottom. ▽ Makes the screen image narrower at the top and wider at the bottom.

Remote Control

Monitor Select 0 to 15
(Refer to Page 20, Item 3 for instructions on how to configure the monitor select switches)
Select a monitor by pressing and holding the Monitor Select Button, and pressing a monitor number, 0 to 15.
Ten seconds after use, the Remote Control will automatically revert to the "All" position.

Power Switch
(Page 20, Item 2)

ALL
Press this button to control any number of monitors.



Brightness Control
(Page 24, Item 1)

Color Control
(Page 25, Item 3)

Contrast Control
(Page 25, Item 2)

Tint Control
(Page 25, Item 4)

Sharpness Control
(Page 25, Item 5)

Degauss
(Page 22, Item 7)

Volume Control
(Page 25, Item 6)

Color Temperature
(Page 22, Item 8)

Mute
(Page 21, Item 5)

Input Select
Auto/RGB1/RGB2
AV1/AV2/AV3
(Page 23, Item 9)

V Size Control
(Page 26, Item 1)

H Size Control
(Page 26, Item 3)

V Centering Control
(Page 26, Item 2)

H Centering Control
(Page 27, Item 4)

Note:
"^" = UP
"v" = DOWN
"<" = LEFT
">" = RIGHT
"+" = INCREASE
"-" = DECREASE

See page 15 for battery installation.

Memory

The 29GA has three types of memory to store data sets, **Preset Memory**, **User Memory**, and **Last Status Memory**. These control the on-screen image. All User Control settings for the on-screen image are automatically saved approximately 3 seconds after the last adjustment.

Preset Memory is preset by the factory (see page 32 for Factory Preset Timings). There are 14 preset memories.

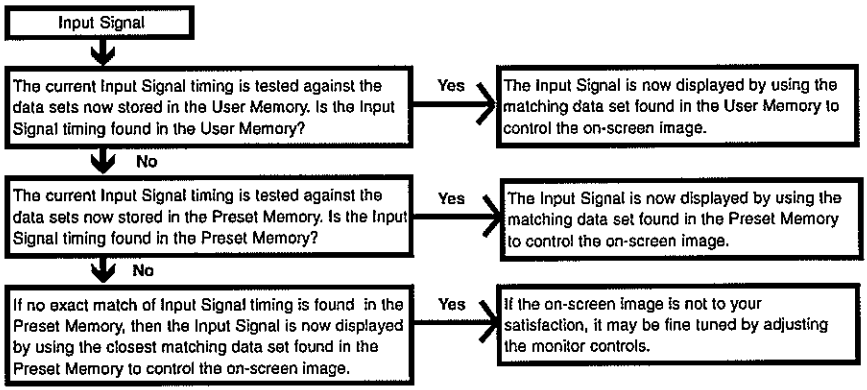
User Memory. There are 10 user memories available.

User Memory has priority over Preset Memory (see the Signal Discrimination Flowchart below). User Memory and Preset Memory control Horizontal Size, Vertical Size, Horizontal Centering, Vertical Centering, Brightness, Contrast, Side-Pincushion and Trapezoid adjustments of the displayed image.

If all 10 user memories contain data sets and a new set of User Control data is saved, the oldest data set in user memory is deleted. The new data set is automatically saved approximately 3 seconds after the last adjustment.

Last Status Memory stores the Video Input mode, the Color Temperature and the Power On/Off status (active or standby mode) just before the monitor is turned off. When the monitor is turned on again, these 3 modes are set to the last status.

Signal Discrimination Flowchart


Input Signal
The current Input Signal timing is tested against the data sets now stored in the User Memory. Is the Input Signal timing found in the User Memory?
Yes
The Input Signal is now displayed by using the matching data set found in the User Memory to control the on-screen image.
No
The current Input Signal timing is tested against the data sets now stored in the Preset Memory. Is the Input Signal timing found in the Preset Memory?
Yes
The Input Signal is now displayed by using the matching data set found in the Preset Memory to control the on-screen image.
No
If no exact match of Input Signal timing is found in the Preset Memory, then the Input Signal is now displayed by using the closest matching data set found in the Preset Memory to control the on-screen image.
Yes
If the on-screen image is not to your satisfaction, it may be fine tuned by adjusting the monitor controls.

Power Management

The 29GA is equipped with power management circuitry, conforming to the VESA® (Video Electronics Standards Association) DPMS™ (Display Power Management Signaling) standards. In order for the monitor's power saving feature to function, the video board or computer must also meet VESA DPMS standards.

The monitor goes into various power saving stages depending on the incoming video signal as shown in the following table:

Signal From PC				Monitor State at 120 VAC		
State	Signals			State	Power Consumption	Power LED
	Horizontal	Vertical	Video			
ON	Yes	Yes	Active	Active	Normal	Green
Standby	No	Yes	Blanked	Standby	Approx. 12 W	Flashing[1]
Suspend	Yes	No	Blanked	Suspend	Approx. 12W	(Interval 1 sec.)
OFF	No	No	Blanked	OFF	Approx. 7 W	Flashing[2] (Interval 3 sec.)

[1]The Power LED Indicator flashes orange/off.

[2]The Power LED Indicator flashes orange/red.

Note:
The monitor automatically goes through the DPMS steps when it is idle. To release the monitor from the DPMS condition, press any key on the keyboard. **Pressing the power switch when the monitor is in the DPMS state will not recall the screen image.**

Timing Chart

The Viewsonic 29GA is a digital monitor that has the capability of running an extensive range of resolutions and refresh rates. Certain "standard" resolutions are factory preset. There are also ten timings which are user definable. For example, if your video card is set up to run 800x600 at 80 Hz, once you have adjusted the screen size and position to your liking, the monitor will save this information to memory. Every time you run this resolution, the monitor will recall your adjustments.

The following table lists the maximum refresh rates at which the ViewSonic 29GA will operate at a number of standard resolutions. While the monitor is capable of this level of performance, not all video cards are capable of running at these high refresh rates. Please see your video card user's guide to ensure compatibility.

User Definable Timings

Resolution	Maximum Refresh Rate (Hz)	H/V Sync Polarity
640 x 480	125	*
800 x 600	101	*
1024 x 768	80	*

* Use the graphics card's default sync polarity for these resolutions. To further enhance the image quality, try different sync polarity settings.

Factory Preset Timings

The following table lists the fourteen factory preset timings:

Computer Video Timings	Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Polarity of Synchronizing Signal Horiz/Vertical
VGA 640x400@70Hz	640 x 400	31.47	70.09	-/+
VGA 640x480@60Hz	640 x 480	31.47	59.95	-/-
VESA VGA 640x400@84Hz	640 x 400	37.86	84.135	-/+
VESA VGA 640x480@72Hz	640 x 480	37.86	72.809	-/-
SVGA 800x600@56Hz	800 x 600	35.156	56.25	+/+
SVGA 800X600@60Hz	800 x 600	37.879	60.317	+/+
VESA 800x600@72Hz	800 x 600	48.077	72.187	+/+
8514/A 1,024x768, interlace	1,024 x 768	35.520	86.95	+/+
1,024x768 non-interlace@60Hz	1,024 x 768	48.363	60	sync-on-green
1,024x768 non-interlace@70Hz	1,024 x 768	56.476	70.069	-/-
1,024x768 non-interlace@72Hz	1,024 x 768	57.803	71.627	-/-
Mac II 640x480@66Hz	640 x 480	35.0	66.67	negative composite and sync-on-green
TV/VCR Video Timings				
NTSC Composite Video, interlace	400 x 525	15.734	60	sync-on-video
PAL Composite Video, interlace	400 x 625	15.625	50	sync-on-video

Note

- Size and position may not be able to be set as desired if input timing is not within horizontal and vertical frequency range. Before registering a new signal, check the items for horizontal and vertical timing under the specifications.
- If new timing is registered, the old timing settings will be deleted.
- If the difference between any of the factory preset timings and the user's timing is smaller than the allowable deviation, and the polarity of their synchronizing signals are the same, then they are considered to be the same, and the user's timing will not be registered.

TROUBLESHOOTING 4

If your **ViewSonic** *29GA* monitor is not performing properly, use the following troubleshooting chart for quick solutions to common problems. If the problem persists, call the dealer where you purchased the monitor. If further support is needed, **ViewSonic** customer service support is available at 1-800-888-8583 (for U.S. or Canada only).

ENGLISH

Problem...	Possible Cause...	Remedy...
No picture	Power cord disconnected?	Connect power cord.
	Power switch on?	Turn on power. Press Main Power Switch.
	Power Indicator is red?	Monitor is in standby mode. Press Power Button in Front Monitor Controls (#2 in the illustration on page 19), or Press Power Button on Remote Control.
	Signal cable properly connected?	Connect signal cable properly.
	Monitor in power save mode?	Press any keyboard key and wait 30 seconds.
	Inactive input port selected?	Press Auto or Manual Input Select Buttons.
	Input video signal is out of range?	Check video timing format from computer source (useable range:15kHz~64kHz)
Image is distorted	Is the earth's magnetic field interfering with display?	Face monitor east for best image quality.

Cont...

Troubleshooting Cont.

Problem...	Possible Cause...	Remedy...
Image is too green	Clamp Switch	Clamp Switch (rear location) should be set to the proper position, "NR" or "DS" (see page 17).
Image is too dark, too bright, or blurred	Input Termination Switch	Input Termination Switch (rear location) should be set to the proper position, "75Ω" (ohms) or "HI-Z" (see page 18).
	Brightness and Contrast	Adjust the Brightness and Contrast Controls.
Image is not centered, too small or too large	H/V-Centering or H/V-Size	Adjust the H/V-Centering and H/V-Size Controls.
Image left/right edges are curved either inward or outward	Side-Pincushion	Adjust the Side-Pincushion Control.
Image top width is different from the bottom width	Trapezoid	Adjust the Trapezoid Control.
Image is scrolling or unstable	Signal Cable	Signal Cable should be completely seated and connected to the monitor and computer. If available, mounting screws should be securely attached.
	Pin Assignments/Signal Timing	Check the Pin Assignments and Signal Timing of the monitor and your computer.
	Signal Cable Connectors	Check the connectors for bent pins.

Cont...

Troubleshooting Cont.

Problem...	Possible Cause...	Remedy...
Image is too green	Clamp Switch	Clamp Switch (rear location) should be set to the proper position, "NR" or "DS" (see page 17).
Image is too dark, too bright, or blurred	Input Termination Switch	Input Termination Switch (rear location) should be set to the proper position, "75Ω" (ohms) or "HI-Z" (see page 18).
	Brightness and Contrast	Adjust the Brightness and Contrast Controls.
Image is not centered, too small or too large	H/V-Centering or H/V-Size	Adjust the H/V-Centering and H/V-Size Controls.
Image left/right edges are curved either inward or outward	Side-Pincushion	Adjust the Side-Pincushion Control.
Image top width is different from the bottom width	Trapezoid	Adjust the Trapezoid Control.
Image is scrolling or unstable	Signal Cable	Signal Cable should be completely seated and connected to the monitor and computer. If available, mounting screws should be securely attached.
	Pin Assignments/Signal Timing	Check the Pin Assignments and Signal Timing of the monitor and your computer.
	Signal Cable Connectors	Check the connectors for bent pins.

Cont...

Troubleshooting Cont.

Problem...	Possible Cause...	Remedy...
Image bounces or a wave pattern appears	Magnetic object nearby?	Keep the monitor away from any devices that create strong magnetic fields.
Image is fuzzy	Brightness and Contrast	Adjust the Brightness and Contrast Controls.
	Degauss Button	Press the Degauss Button.*
Colors are not pure	Degauss Button	Press the Degauss Button.*
Incorrect colors	Magnetic object nearby?	Keep the monitor away from any devices that create strong magnetic fields.
	Signal Cable	Check for a bad signal cable.
	Signal Cable Connectors	Check the connectors for bent pins.
The image is fine but there is no sound	Audio Cable	Connect the audio cable correctly to the audio input.
	Volume or mute	Increase the volume, turn mute off.
	Computer sound level	Increase the sound level from the computer.

**Caution: To avoid damage to the monitor, Do Not press the Degauss Button continuously. Allow a minimum of 5 minutes before using this button again.*

ADDITIONAL INFORMATION

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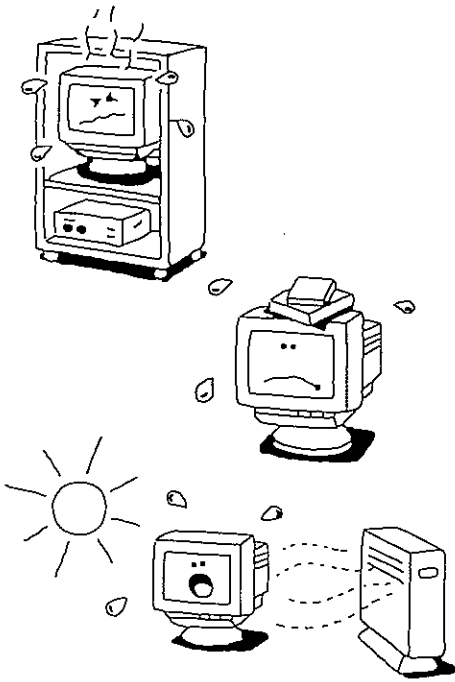
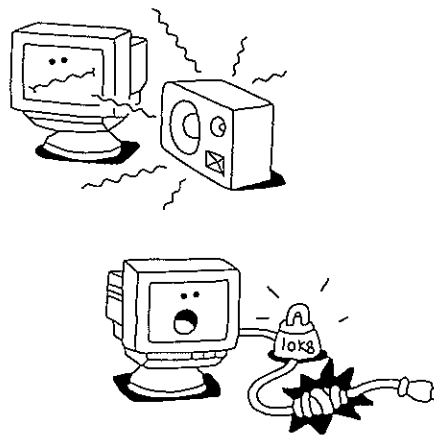
Helpful Hints

- Avoid exposing monitor to direct sunlight or other heat source. Monitor should be facing away from direct sunlight to reduce glare.
- Choose a well ventilated area to position your monitor to allow adequate dissipation of heat. Do not place anything on top of the monitor.
- Ensure the monitor area is clean and moisture free.
- Keep the monitor away from magnets, motors, transformers, speakers, and televisions.
- Do not place heavy objects on the cable or power cord.



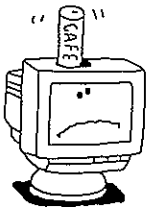
Safety Tips

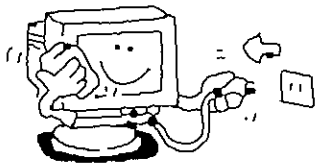
- If smoke, abnormal noise, or foul odor is present, immediately switch monitor off and call the dealer where you purchased the unit. It is dangerous to continue using the monitor.
- Never remove the rear cover. The display unit contains high-voltage parts. You may suffer electric shock if you touch these parts. Call your dealer or **ViewSonic** customer support.



Care of Your Monitor

- Use only non-ammonia glass cleaner on the monitor screen.
- Use only a soft, dry cloth to clean the display case. If the plastic is very dirty, use a neutral, non-abrasive detergent. Do not use an alcohol based cleaner or polish.
- Avoid spilling liquid on the monitor.
- Always handle your monitor with care when moving it.





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VIEWSONIC LIMITED WARRANTY

What the warranty covers:
ViewSonic warrants its products to be free from defects in material and workmanship during the warranty period. If a product proves to be defective in material or workmanship during the warranty period, **ViewSonic** will at its sole option repair or replace the product with a like product.

How long the warranty is effective:
All **ViewSonic** 14", 15", 17", 20", 21", and 29" CRT monitor products, including the display tube, are warranted for three (3) years for all parts and one (1) year for all labor from the date of the first consumer purchase.

Who the warranty protects:
This warranty is valid only for the first consumer purchaser.

What the warranty does not cover:
1. Any product on which the serial number has been defaced, modified or removed.
2. Damage, deterioration or malfunction resulting from:
   a. Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
   b. Repair or attempted repair by anyone not authorized by **ViewSonic**.
   c. Any damage of the product due to shipment.
   d. Removal or installation of the product.
   e. Causes external to the product, such as electric power fluctuations or failure.
   f. Use of supplies or parts not meeting **ViewSonic**'s specifications.
   g. Normal wear and tear.
   h. Any other cause which does not relate to a product defect.
3. Removal, installation, and set-up service charges.

How to get service:
1. Take or ship the product prepaid in the original container to your **ViewSonic** dealer, any **ViewSonic** service center or **ViewSonic**.
2. To obtain warranty service, you will be required to provide (a) the original dated sales slip, (b) your name, (c) your address, and (d) a description of the problem.
3. For additional information or the name of the nearest **ViewSonic** service center, contact your **ViewSonic** dealer or **ViewSonic**. **ViewSonic's** telephone number in the U.S.A. is 1-800-888-8583.

Limitation of implied warranties:
THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION CONTAINED HEREIN INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Exclusion of damages:
VIEWSONIC'S LIABILITY IS LIMITED TO THE COST OF REPAIR OR REPLACEMENT OF THE PRODUCT. **VIEWSONIC** SHALL NOT BE LIABLE FOR:
1. DAMAGE TO OTHER PROPERTY CAUSED BY ANY DEFECTS IN THE PRODUCT, DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME, LOSS OF PROFITS, LOSS OF BUSINESS OPPORTUNITY, LOSS OF GOODWILL, INTERFERENCE WITH BUSINESS RELATIONSHIPS, OR OTHER COMMERCIAL LOSS, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
2. ANY OTHER DAMAGES, WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE.
3. ANY CLAIM AGAINST THE CUSTOMER BY ANY OTHER PARTY.

Effect of state law:
This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on implied warranties and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

Sales outside the U.S.A.:
For **ViewSonic** products sold outside of the U.S.A., contact your **ViewSonic** dealer for warranty information and service.